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10/729,392

12/05/2003

Dejan Radosavljevic

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EXAMINER

KITOV, ZEEV

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/729,392

Applicant(s)

RADOSAVLJEVIC ET AL.

Examiner

Zeev Kitov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 33, 30b is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 23, 25 - 33, 30b is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Reception of the Applicant's claim of priority from U.S. Provisional Application Ser. No. 60/326,531 filed Oct. 02, 2001 and entitled SECONDARY TRIPPING MECHANISM is acknowledged. However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for the following claims of this application.

Claim 3, since an arc fault protection is not disclosed.

Claims 8,9, 10, 12, 19, and 31, since the fuse and fuse mechanism are not disclosed.

Claims 11 and 14, since the adhesive is not disclosed.

Claims 10, 13, 16, 20, since the solder is not disclosed.

Claim 24, since the transistor is not disclosed.

Accordingly, the listed Claims have the priority of the filing date of current Application.

In addition, the Provisional Application No. 60/326,531 was filed as invention of Bruce F. Macbeth, while the current Application is invented by Dejan Radosavljevic and Thomas Packard. Therefore, the earlier priority date is denied, since condition of the 35 U.S.C. 120 regarding common inventorship is not satisfied.

2. Applicant's claim of priority from co-pending U.S. application Ser. No. 09/827,007 filed Apr. 05, 2001 and entitled LOCKOUT MECHANISM FOR USE WITH GROUND AND ARC FAULT CIRCUIT INTERRUPTERS is denied since condition of the 35 U.S.C.

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120 regarding common inventorship is not satisfied. The inventor of Application No 09/827,007, which matured into patent No 6,621,388, is Bruce F. Macbeth, while a current Application is invented by Dejan Radosavljevic and Thomas Packard. The two Applications have no single common inventor (see 35 U.S.C. 120 below).

Accordingly, the current Application has a priority of its filing date.

35 U.S.C. 120 Benefit of earlier filing date in the United States.

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 23, 25 – 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Macbeth (US 6,621,388).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Macbeth discloses all the elements of Claims 1 and 33 including a plurality of line terminals connected to an electrical distribution system (LINE terminals 4 and 6 in Fig. 1) and a plurality of load terminals connected to at least one load (LAD terminals in Fig. 1), a fault detection circuit (element 14 in Fig. 1) coupled to the plurality of line terminals and the plurality of load terminals and detecting at least one fault condition; a power interruption circuit coupled to the fault detection circuit, the power interruption circuit including a set of movable contacts (elements 34 and 36 in Fig. 1) for decoupling the plurality of line terminals from the plurality of load terminals in response to the fault detection circuit detecting the at least one fault condition; a reset mechanism (elements 40, 54, 61 in Fig. 5) coupled to the power interruption circuit and configured to actuate the movable contacts (elements 35 and 37 in Fig. 5) to re-couple the plurality of line terminals to the plurality of load terminals; a lock-out mechanism (elements 400 and 404 in Fig. 5); coupled to the reset mechanism, the lockout mechanism being configured to

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disable the reset mechanism in a lock-out state (col. 5, line 12 – col. 6, line 4); and a test circuit (elements 10 and 8 in Fig. 1, 8 and 708 in Fig. 7 ) coupled to the fault detection circuit and the lock-out mechanism, the test circuit being configured to provide a simulated fault signal to the fault detection circuit in response to a user stimulus, the test circuit being configured to drive the lock-out mechanism from an unlocked state to the lock-out state if the fault detection circuit and/or power interruption circuit fails to respond to the simulated fault signal within a predetermined period of time (col. 5, line 36 – col. 6, line 4).

Regarding Claim 2, Macbeth discloses the electrical fault being or a ground fault (col. 1, lines 15 – 18).

Regarding Claim 3, Macbeth discloses the fault detection circuit including an arc fault detection circuit (col. 7, lines 32 – 45).

Regarding Claim 4, Macbeth discloses a reset button (element 40 in Fig. 5); and a linkage mechanism coupled to the reset button (elements 54, 61 in Fig. 5), the linkage mechanism being configured to engage a portion of the movable contacts in a coupled state, the set of movable contacts (elements 35 and 37 in Fig. 5 and 6) being engaged to thereby couple the plurality of line terminals to the plurality of load terminals (as shown in Fig. 5), the linkage mechanism also being configured to disengage the portion of the movable contacts in a decoupled state, such that the plurality of line terminals are decoupled from the plurality of load terminals (as shown in Fig. 6).

Regarding Claim 5, Macbeth discloses the reset mechanism further including a latch spring (element 52 in Fig. 5) coupled to the linkage mechanism, the latch being

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configured to move the linkage mechanism from the coupled state (shown in Fig. 6) to the decoupled state (shown in Fig. 5) in response to a stimulus from the power interruption circuit (by firing element 22 in Fig. 7), and by movement of plunger (element 23 in Fig. 6).

Regarding Claim 6, Macbeth discloses the latch (element 52 in Fig. 5 and 6) being configured to move the linkage from the uncoupled state to the coupled state in response to a user stimulus of the reset button, when the test circuit is in the unlocked state (col. 5, lines 11 – 35).

Regarding Claims 7 and 8, Macbeth discloses the state when the latch (element 52 in Fig. 5 and 6) cannot move the linkage from the uncoupled state to the coupled state in response to a user stimulus of the reset button, when the test circuit is in the lock-out state, since the solder pads for resistor (element 404 in Fig. 5 and 6) disposed in such a way as to impede movement of lockout spring (element 400 in Fig. 5 and 6, col. 5, lines 19 – 26). It further discloses the latch being coupled to a fuse mechanism (col. 5, lines 11 – 35), which being closed in the unlocked state and open in the lock-out state, the fuse mechanism being configured to prevent the latch from latching the linkage mechanism when the test circuit is in the lock-out state.

Regarding Claims 9 – 10, 12, 13, 15 and 16, Macbeth discloses a spring mechanism (elements 400 and 403 in Fig. 5 and 6) moving the latch (element 52 in Fig. 5 and 6) into the lock-out state; and the fuse mechanism (element 404 in Fig. 5 and 6) configured to prevent the spring mechanism from moving the latch into the lock-out state, the fuse mechanism being configured to fail if the fault detection circuit and/or

power interruption circuit fails to respond to the simulated fault signal within the predetermined period of time (col. 5, line 36 – col. 6, line 4). The fuse mechanism includes a resistor soldered in a position corresponding to the unlocked state (element 404 in Fig. 5 and 6), the test circuit being configured to transmit current through the resistor (element 8 in Fig. 1 and 7) when providing the simulated fault signal, the current being configured to cause the solder (of the element 404 in Fig. 5, 6 and 7) to fail after the predetermined period of time elapses, to thereby allow the spring mechanism to move the latch into the lock-out state (col. 5, lines 11 – 35).

Regarding Claims 11, 14 and 17, Macbeth discloses a resistor disposed in a position corresponding to the unlocked state by an adhesive (see Claim 30).

Regarding Claim 18, Macbeth discloses a test switch responsive to a user stimulus (element 10 in Fig. 1 and 14); a first circuit element (element 8 in Fig. 1, and 14) coupled to the test button, the first circuit element configured to generate the at least one fault condition in response to the test switch being in a closed position; and a second circuit element (element 404 in Fig. 7 and 14) coupled to the test switch, the second circuit element being configured to drive the test circuit from the unlocked state to the lock-out state if the fault detection circuit and/or the power interruption circuit fail to respond to the at least one fault condition within the predetermined time period (col. 5, lines 11 – 35).

Regarding Claim 19, Macbeth discloses the second circuit element, which includes a fuse mechanism (element 404 in Fig. 4 - 7, 10, 13, 14) that is closed in the unlocked state and open in the lock-out state.



Regarding Claims 20 and 22, Macbeth discloses the second circuit element, which includes a resistor coupled to the lockout mechanism by solder, the solder being configured to fail after the predetermined time elapses, decoupling the resistor from the lock-out mechanism, driving the test circuit from the unlocked state to the lock-out state (col. 5, lines 11 – 35).

Regarding Claim 21, Macbeth discloses the first circuit element producing a differential current when the test switch is closed, the differential current simulating the at least one fault condition (ground fault), the second circuit element generating substantially no differential current. Generation of the differential current in the GFCI sensor is inherent property of the GFCI detection method. Flowing of the current through resistor (element 8 in Fig. 1) produces differential current in the sensor (element 12 in Fig. 1). According to Macbeth (col. 4, lines 26 – 41), “A contact 10 along with a resistor 8 form a test circuit, which introduces a simulated ground fault.”

Regarding Claim 23, Macbeth discloses a spring mechanism (elements 400 and 403 in Fig. 5 and 6) driving the reset mechanism into the lock-out state and the resistor (element 404 in Fig. 5 and 6) coupled to the spring mechanism, the resistor being configured to prevent the spring mechanism from driving the lockout mechanism into the lock-out state, the resistor being configured to fail if the fault detection circuit and/or power interruption circuit fails to respond to the simulated fault signal within the predetermined period of time (col. 5, lines 11 – 35).

Regarding Claim 25, Macbeth discloses a spring loaded mechanism (elements 52, 401, 403, 400 in Fig. 5 and 6) configured to actuate the set of movable contacts (elements 35 and 37 in Fig. 5 and 6) from a coupled state to an uncoupled state.

Regarding Claims 26 and 28, Macbeth discloses the reset mechanism (elements 23, 52, 32 and 61 in Fig. 5 and 6) driving the set of movable contacts (elements 35 and 37 in Fig. 5 and 6) from the uncoupled state to the coupled state in the unlocked state, but cannot drive the set of movable contacts from the uncoupled state to the coupled state in the lock-out state (col. 5, lines 11 – 35).

Regarding Claim 27, Macbeth discloses a relay mechanism (elements 24, 23, and 32 in Fig. 5 and 6) configured to actuate the set of movable contacts from a coupled state to an uncoupled state.

Regarding Claim 29 and 30, Macbeth discloses the power interruption circuit including a bus bar mechanism (element 210 in Fig. 17a) actuating the set of movable contacts from a coupled state to an uncoupled state but cannot drive the set of movable contacts from the uncoupled state to the coupled state in the lock-out state (col. 7, lines 32 – 45).

As per Claim 31, it differs from Claim 1 rejected accordingly by its limitation of the fuse element. Macbeth discloses a fuse element coupled to the spring mechanism to prevent the spring mechanism from moving in an unlocked state (element 404 in Fig. 5 and 6). It further discloses the test circuit (elements 10, 8 in Fig. 1, 404 in Fig. 5 - 7) configured to open the fuse element to thereby drive the lock-out mechanism from the unlocked state to the lock-out state if the fault detection circuit and/or power interruption

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circuit fails to respond to the simulated fault signal within a predetermined period of time (col. 5, lines 11 – 49).

Regarding Claim 32, Macbeth discloses the fuse mechanism as being resistor (col. 5, lines 19 – 24).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 30b is rejected under 35 U.S.C. 103(a) as being unpatentable over Macbeth in view of King (US 6,309,248). Claim 30b differs from Claim 1 by its the limitation of the device having a receptacle, switch, circuit breaker, module, and portable housing containing said device. Macbeth discloses the switch (element 22 in Fig. 7), circuit breaker (elements 26, 32, 34 in Fig. 7). As to receptacle, modular structure and portable housing of the device, King discloses all these elements (see Abstract). Both references have the same problem solving area, namely providing the ground fault protection for customers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Macbeth solution by providing the receptacle, modular structure and portable housing for the device,

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because as King states (col. 1, lines 10 – 45), the receptacle would make possible connection of removable electrical devices; the modular structure and portable housing is an essential condition, which would permit connection of plurality of the removable electrical devices (as shown in Fig. 9).

***Allowable Subject Matter***

Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. A reason for that is that the claim recites limitation of a transistor having the base being coupled to the first resistor. Such limitation was not found in the collected prior art of the record.

*Stephen W. Jackson*  
11-24-08

STEPHEN W. JACKSON  
PRIMARY EXAMINER